Town Centre CCTV:

An Examination of Crime Reduction in Gillingham, Kent.

by

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Abstract

Research into the effectiveness of Closed Circuit Television (CCTV) has been heavily scrutinised since the widespread introduction of CCTV into public space. It has been previously contended that the development of town centre CCTV systems has been driven more by the availability of government funding and a coalescing of local interests than any crime prevention imperatives. This study attempts to assess if crime prevention is the main reason for the existence of town centre CCTV in Gillingham. Previous examinations of town centre CCTV rarely look further ahead than 12 months after installation of the system. This study examines crime statistics from Gillingham for five years post CCTV and compares these to a similar control area with no CCTV over the same time period. The results show that Gillingham witnessed an average reduction of 35% of the total reported crime rate in the High Street and adjacent car parks compared to a 0.05% reduction in the control area.

The value of such statistics are questioned and a more detailed examination of changes within specific crimes are explored. This has shown CCTV has most effect on vehicle crimes and least effect on violent crimes.

The evaluation asks to what extent CCTV can be attributable to these reductions in offences and identifies other factors that may be mutually dependent in the fight against crime. In doing so, attention is drawn to the shortcomings of previous evaluations and current knowledge gaps in relation to the impact of CCTV on crime. Ultimately this study sets out the key elements needed in future research and evaluation if CCTV is to gain continued widespread support.

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Chapter 1 Introduction & Aims

Research into the effectiveness of closed circuit television (CCTV) has been heavily scrutinised since the widespread introduction of CCTV into public space. The majority of literature has focused on two aspects; the impact of CCTV on crime (see Tilley, 1993, Brown, 1995, Sarno, 1996, Skinns, 1998, Squires, 1998, Armitage et al, 1999, Ditton and Short, 1999) and the issue of infringement of civil liberties (see Honess and Charman, 1992, Edwards and Tilley, 1994, Ditton, 2000). More recently literature has focused on reviewing the effectiveness of such studies and is often critical of earlier approaches. Welsh and Farrington (2002) have compiled the most systematic review of current literature and concluded studies were only relevant if they met the following methodological criteria:

(1) CCTV was the focus of the intervention

(2) There was an outcome measure of crime

(3) The evaluation design was of high methodological quality, with the minimum design involving before-and-after measure of crime in experimental and control areas

(4) There was at least one experimental and one comparable control area

(5) The total number of crimes in each area before the intervention was at least 20

(Welsh and Farrington, 2002, pv)

Of all the literature reviewing CCTV the authors found only 22 studies to be rigorous enough for inclusion in their meta-analysis.

The first aim of this study is to conform to Welsh and Farrington's criteria which has been achieved on all five levels for an analysis of Gillingham Town Centre. However, simply fulfilling these criteria does not make a study innovative. Also Welsh and Farrington's methodology is not followed blindly and does contain limitations which will be discussed later in the study. In their conclusion Welsh and Farrington ask "Was the intervention (CCTV) in place long enough to provide an accurate picture of it's observed effects on crime?" commenting that four of the twenty two schemes studied were in place for six months or less and that this was too shorter time to assess a programme's impact on crime. Clarke agrees stating "it is now recognised that more information is needed about the longer-term effects of situational prevention" (Clarke, 2001, p.29). In his 1993 study Tilley also stipulates that "the overall potential of CCTV can only be progressively uncovered over time by a series of studies to deal with the various aspects…" (Tilley, 1992, p.6).

It can therefore be argued that a study is required looking at the longer term effects of situational crime prevention. CCTV became a buzzword of the 1990s with the result that the majority of research into CCTV occurred during this decade (as can be seen in the literature listed above). Furthermore the longest post-installation period of assessment to date has only been 26 months which clearly leaves a gap in current knowledge when considering longer term effects. A further aim of this study is therefore to provide an evaluation of the longer term effects of CCTV on crime reduction and prevention within a town centre. The Gillingham town centre system "went live" (Home Office CCTV challenge competition, 1996/7) in 1996 which means this study will look at five years of crime figures post-installation. This will be the longest period of time studied after installation in this field of research.

As well as assessment over a different time period this study will look at a different type of town centre ignored by previous literature but within the constraints of time and space upon this study. A study of local authorities areas carried out by the Urban and Economic Development Group in 1994 identified five different types of town centre: market towns, industrial towns, suburban centres, metropolitan cities and historic towns (URBED, 1994). The majority of available literature focuses on metropolitan cities. For example Brown, 1995, Birmingham and Newcastle; Musheno et al, 1978, New York City; Taylor, 1999, Leicester; Ditton and Short, 1999, Glasgow. In accordance to URBED's terms Gillingham is best described as a combination of a market town and a suburban centre. This study will therefore provide an analysis where there appears to be a gap in current knowledge in terms of both time and place.

In a backlash to studies looking at crime reduction and issues of civil liberties Mackay's 2002 paper entitled "Self interest: the true reasons for supporting town centre CCTV systems" provides critical findings that have been a backdrop to this study. Mackay concludes "It's [CCTV] true purpose is shown to be an amalgam of dealing with public disorder, the fear of crime, economic benefits and town centre management issues." (Mackay, 2002, pii) Mackay's ground-breaking study offers an explanation for continued support of CCTV despite a lack of empirical evidence showing its effectiveness and/or cost-benefit analysis. A further aim of this study is to combine earlier efforts of assessing crime reduction effects of CCTV based on crime statistics with the approach adopted by Mackay. This was achieved by interviews with three key figures involved with CCTV in Gillingham with the aim to identify any reasons *other* than crime reduction for supporting town centre CCTV systems.

This current study can be seen to have four distinct aims:

1) To conform to Welsh and Farrington's rigorous methodological criteria for assessment of CCTV schemes.

2) To review the longer term effects of situational crime prevention by using more years of crime statistics than any other study; thus providing a longitudinal study.

3) To assess the effects of CCTV upon an urban area previously overlooked; a suburban centre/market town (URBED, 1994)

4) To attempt to uncover any reasons other than crime reduction for the installation of CCTV in Gillingham by interviewing key figures associated with the scheme.

Now the aims of the study have been established the following chapter will critically examine the existing literature in order to ascertain where gaps in current knowledge occur.

Chapter 2 Literature Review

A Systematic Review - Welsh and Farrington, 2002.

In August 2002 Professors B.C. Welsh and P. Farrington published a paper which summarised the findings of 46 studies from the USA and Britain on the effectiveness of CCTV in crime reduction. Their objectives were to report the findings in a systematic review incorporating meta-analytical techniques of the available research evidence on the effect of CCTV on crime and to inform public policy and practice on preventing crime through the use of CCTV interventions. Through a rigorous searching and analysing process only 22 studies were deemed to meet their criteria for inclusion which were listed in the introduction. The results were that half (11) found a desirable effect on crime and five found an undesirable effect on crime. Five had evidence of no effect on crime and one was concluded to have an uncertain effect (Welsh and Farrington, 2002).

Results from their meta-analysis came up with a figure of 4% as the average reduction in crime as a result of CCTV. It was also found that CCTV had no effect on violent crimes and most effect on vehicle crimes. These results will prove useful for comparison with the analysis of Gillingham town centres crime figures. The authors pay particular attention to what they call “methodological rigour” commenting that:

> *The use of a control condition is important in ruling out some of the major threats to internal validity, but efforts are also needed to make the experimental and control conditions comparable.*
>
> (Welsh and Farrington, 2002, p4)

The control area selected for this study is Strood, another town compromising the Medway towns (of which Gillingham is part) which is very similar in size and type to Gillingham and will be discussed later in the study.

The authors also question the validity of statistical inferences drawn in some of the 22 studies that had passed their criteria as "small numbers of crimes made it difficult to determine whether or not the programme had an effect on crime". Associated with this problem was that of the time scale concerned with the authors commenting that "time series designs are needed with a long series of crime rates in experimental and control conditions before and after the introduction of CCTV" (Welsh and Farrington, 2002). Both of these criticisms of existing research have been considered for this study and consequently crime figures for the last five years post-installation (of CCTV) have been obtained and (unfortunately for the area) high crime figures exist for both Strood and Gillingham during this period.

It is now necessary to consider more closely studies on the crime prevention effects of CCTV. To highlight the methodological differences this study will examine an assessment that passed Welsh and Farrington's criteria and also one that failed.

The Police Research Group - Brown, 1995.

As part of the Police Research Group (PRG) Browns 1995 publication entitled "CCTV in town centres: three case studies" is one of the first systematic reviews of the effectiveness of CCTV in town centres. The study assessed Birmingham, Newcastle and King's Lynn over a 3 year period of which only 15 months was post-installation research. Of the three the latter failed to be included within Welsh and

Farringtons's criteria (due to no comparable control area). The objective of the study was to add to previous Home Office findings that claimed rather loosely that "CCTV can, in certain circumstances, make a useful contribution to crime control" (Brown, 1995). Brown's working assumption is one that many other studies come to conclude which is that cameras can have a strong deterrent effect on a wide range of crimes after they are first installed but this effect will lessen over time. This will be shown to be the case for Gillingham but unlike Brown's report this study will look at the *long term* effects after installation.

Brown's areas of study as defined by the URBED classification (1994) comprise of metropolitan city centres (Birmingham and Newcastle) and a market town/historical town (King's Lynn). Although Gillingham can also be considered a market town Brown's study of Kings Lynn failed to meet Welsh and Farrington's methodological criteria due to the absence of a control area. Therefore as the study of Gillingham amends this aspect this current study is justified despite it being a similar town to King's Lynn. Brown's analysis of crime statistics for Newcastle looked at 26 months before the cameras became fully operational and 15 months after. Only offences that show significant decreases or increases are included. The biggest reduction was a 56 per cent drop in the average monthly figure for burglary within the CCTV area. By only including significant changes Brown's study does not show what types of crime were unaffected by CCTV. Brown's conclusion finds that the initial presence of CCTV had a strong deterrent effect on a number of offences. Burglary and criminal damage are cited as examples of crimes that CCTV had a lasting effect on. The number of public disorder offences remained unchanged since the installation of the cameras but it is argued CCTV is less about preventing these offences than initialising a quick response to them. Brown also draws upon a recurring issue within the field

which considers displacement of crime vs. diffusion of benefits. More simply this is looking for evidence of CCTV either displacing crime to non CCTV areas or creating unintended benefits in non CCTV areas from a nearby scheme. These principles will be discussed in a later chapter and will be shown to have relevance in the study of Gillingham and the Strood control area.

Crime in Car Parks

In 1993 Tilley published a paper examining crime and CCTV in car parks. None of the studies that were conducted complied with Welsh and Farrington's criteria mainly due to a lack of control conditions to compare the effectiveness of CCTV installation. Tilley focused strongly on the theory and principles behind evaluating CCTV and summarised: "In a given context, a particular crime prevention measure fires one or more causal mechanisms, which produce a particular outcome-pattern" (Tilley, 1993, p3). Based upon this statement he suggests various ways in which CCTV can reduce car crime:

a) CCTV reduces [car] crime by making it more likely that present offenders will be caught, stopped, removed, punished or deterred.
b) By deterring potential offenders who will not wish to risk apprehension and conviction by the videotape evidence.
c) Presence of CCTV leads to increased usage [of car parks], in turn creating a greater element of natural surveillance from the users of the car park.
d) CCTV allows for the effective deployment of security staff / police
e) Publicity given to CCTV and its use in catching offenders is received by potential offenders who avoid the increased risk of committing crime.

f) CCTV and signs indicating its presence deter the potential offender as crime is perceived to be more risky. (Tilley, 1993, p3/4)

This is by no means a definitive list of the mechanisms by which CCTV operates; however, it will be useful to refer back to when considering the crime statistics of Gillingham Town Centre to see if any further mechanisms occur in Gillingham. Tilley's case studies do not match his methodological rigour and are often overly descriptive and inconclusive. For example the study of a Wolverhampton car park only examines the 12 months after installation and the figures are very small per month, often with only one or two offences. This makes any statistical analysis invalid as not enough figures exist to reach sound conclusions. However, Tilley does understand the constraints of his study and offers the following advice to future researchers: "The evaluation of crime prevention initiatives ideally needs to go beyond the comparison of one year before and one year after patterns." (Tilley, 1993, p24)

Addressing Civil Liberties – Honess and Charman, 1992.

The second major issue when addressing CCTV in public space is whether CCTV infringes upon peoples civil liberties. This question was going to be one of the main focuses of this study in the development stage but has since been overruled due to the work carried out in existing literature and constraints of time and workload for one researcher. Honess and Charman in their 1992 study entitled 'Closed Circuit Television In Public Places: Its Acceptability and Perceived Effectiveness' present a thorough and detailed investigation into the public's perceptions of CCTV. The study found that the vast majority of people support the use of CCTV to control crime in

public areas. However, they found that one third of people were concerned with "being watched" and the possible expansion of state or police control. People are mainly concerned about who is responsible for controlling the systems and the way in which the systems are used (Honess and Charman, 1992). Brown comments:

In this sense, these concerns are less about the cameras per se, and are more about the impartiality and accountability of the people and organisations using these systems, and how they are using the information they are getting.

(Brown, 1995, p66)

Honess and Charman conducted their study from a sample of the general public in Cardiff, Bristol, Birmingham and Coventry with a total of 798 participants spread evenly throughout the sample areas. A general survey was conducted intended to measure firstly respondents' awareness of CCTV and their perceptions of its purposes and secondly the acceptability of CCTV and any public concern in respect of implications for civil liberties (Honess and Charman, 1992, p26). As well as a general survey, in which the same questions were asked to every respondent, site specific surveys were conducted which were designed to measure respondents' perceptions of the impact of CCTV on site specific crimes and the extent to which a CCTV installation or proposed installation would have an affect on their own feelings of safety and possible fear of crime. These surveys were conducted in town centre streets, car parks and shopping centres in both CCTV and non-CCTV areas of the above sites. A further 1839 people were interviewed in these site specific locations. The results were grouped into distinct categories for example public awareness of CCTV, perceived purpose/effectiveness of CCTV systems and public concern over CCTV systems. The findings show a public that do not mind CCTV in principle but

have fears of abuse of the systems, for example 72% agreed with the statement that "these cameras could easily be abused and used by the wrong people" (Honess and Charman, 1992, p9). Only 11% of people thought the cameras were really "spy cameras" which again shows people are more concerned with who controls the system. Furthermore many participants (93%) thought that only the police or magistrates and courts (83%) should be allowed access to the tapes from CCTV cameras and security personnel should not, nor be able to select what was to be taped or wiped.

Honess and Charman provide an essential insight into public attitudes and make way for a follow up study as a decade has passed since the paper was published. However, additional research into this aspect of CCTV by this dissertation would not break new ground due to the constraints of time and resources.

Now the objectives of this study have been made clear and the current literature discussed a brief background of the history of CCTV systems, in particular the national and local funding of schemes will prove useful as a backdrop to the case study areas.

Chapter 3 History and Funding of CCTV systems in Britain

National expenditure on CCTV

In Britain, CCTV is the single most heavily funded non-criminal justice crime prevention measure. Over the three year period of 1999 through 2001 £170 million has been made available by the British Government for "CCTV schemes in town and city centres, car parks, crime hot-spots and residential areas" (Home Office Policing and Reducing Crime Unit, 2001, p8). Previously, between 1996 through 1998, CCTV accounted for more than three-quarters of total spending on crime prevention by the Home Office (Koch, 1998, p.49). In 1994 the Home Office initiated the CCTV funding challenge in which local authorities had the chance to raise half the funds for a system with the other half matched by the government. It was massively oversubscribed with over 500 bids being made with the result of the initial funding being raised from £2 million to £5 million. This approach was copied by the Scottish Office Challenge fund in 1996 and since then the Home Office, Scottish Office/Executive and the Northern Ireland Office have provided a total of more than £205 million to support 1,400 town centre CCTV projects (Mackay, 2002, p5). This led to the creation of various partnerships between local authorities and crime trusts, which then raised another £350 million for capital expenditure on these projects (Norris and Armstrong, 1999, p211). If only half of the 1400 systems are run on a full time basis the annual running costs are estimated at £50 million (Mackay, 2002, p5), a significant amount of public expenditure. It is for this reason that the identification of funding sources and the agreement of various partners to share the costs is so important to the local authorities.

Funding CCTV on a local scale

There are no direct sources of grant aid for town centre CCTV schemes, apart from the CCTV Challenge. Each local authority will thus have had a variety of funding sources, the availability of which depends upon local circumstances. The basic principle that seems to remain the same in each case is that while everyone is in favour, nobody wants to pay for CCTV schemes (Mackay, 2002, p14). Some councils, for example Rotherham, Lincoln and Swale, have received funding from the EC and UK Single Regeneration Budget (SRB) for CCTV as part of a wider regeneration project (Wade, 2000, p28). Another example of a more unique style of funding can be seen in Poole and Kings Lynn where funding for systems was raised by adding 10 pence on the cost of parking tickets (CCTV Today, 1996). However, the most common approach is through a partnership with other interested groups, e.g. police and traders. Partnerships are the best method of funding as each member may have access to specific funding which can be applied to the overall benefit of the project. The main comment from councils is that they can best support CCTV schemes when the private sector is also contributing (Mackay, 2002) most councils have strong links with the business sector and can therefore quickly bring together the relevant persons to form a partnership.

Within the context of the case study site the Gillingham Safer Community Partnership consisting of Gillingham Borough Council (Gillingham Council has since merged with the other Medway Councils to form one body), Kent County Constabulary (KCC), local businesses and community services submitted a bid for the Home Office CCTV challenge competition in 1996/7. Details of the funding proved hard to obtain with no breakdown of the costs made available from any of the partners involved. Neither the Home Office or Medway Council websites gave details of the financial

breakdown for local district authorities, e.g. figures were available for the allocation of funds to Medway but not for Gillingham specifically. However, despite this lack of availability a copy of the original bid was made available by the current town centre manager as long as it stayed within the confines of the council offices. From this document the total capital cost of the scheme in Gillingham was quoted as £240 500. The contributions made by the KCC and Gillingham Borough Council remain undisclosed but private sector donations were cited as £7600 (Home Office Closed Circuit Television Challenge Competition, 1996/97). Assuming that, as the bid was successful, the Home Office met half the cost the remaining figure minus the donation from the private sector leaves approximately £112 650 to be met by Gillingham Borough Council and the KCC. However, the contribution of the police is normally 'assistance in kind' (Mackay, 2002) which means that the police supply their part of the deal in the form of providing premises for monitoring stations and staff for monitoring and policing duties etc. The brunt of the cost is therefore upon the local council. Considering that local business was fully in favour of the CCTV scheme and believed it would bring commercial advantages i.e. a safer environment to shop, the donation from the private sector was low. The following table, table 1, lists the private sector contributors and their donations:

Table 1: *Private Sector Contributors and Donations pledged*

Contributor	**Donation (£)**
Rank Leisure	5000
Barclays	1000
Lloyds	500
Gerlad Eve-Surveyors	500
TSB	250
Midlands	100
F.Hinds - Jewellers	50

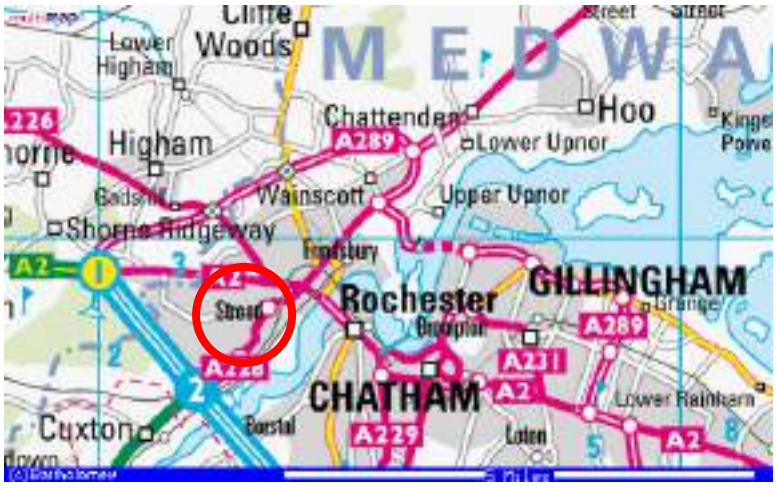
These figures demonstrate that the ‘partners’ are not equal when it comes to funding the scheme: findings which agree with Mackay's contention that “while everyone is in favour, nobody wants to pay for CCTV schemes” (Mackay, 2002, p14).

The general picture regarding funding for town centre CCTV has now been examined and its problems accessing funds on a local scale observed. The next chapter will examine the case study area and the control area in terms of location, demographics, crime rates and the objectives of the CCTV system in Gillingham.

Chapter 4 The Case Study Areas: Gillingham and Strood

Gillingham along with Chatham and Rochester form the Medway Towns, the local authority area of which is part of the county of Kent. Strood, the control area for the study, is a borough of Rochester. Situated approximately 30 miles south of London the following map, figure 1, shows the location of Gillingham and Strood within the Medway towns:

Figure 1: *Location of Gillingham and Strood (circled) within Medway.*



Source: multimap.com

Although Gillingham is a larger urban area than Strood the actual areas studied are very similar in size as they only constitute the High Street and adjacent roads and car parks. In both areas the High Street represents the centre of commerce and sees the most amount of public use, as is the case with many towns throughout the UK. The following table, table 2, shows the various demographics of the two sites, justifying Strood as a worthy comparable site to Gillingham.

Table 2: *Demographics of Gillingham and Strood.*

Demographic	**Gillingham***	**Strood**
Resident population	6200	6000
Economically active aged 16-59	3200	2900
VAT registered enterprises	95	105
VAT registered enterprises by industry		
Agriculture	0	0
Production	10	5
Construction and other	85	100
Employee Jobs	1100	2400
Income support claims	450	490
Indices of deprivation**	2130	1481
Crime Rate 1996 (pre CCTV)***	1376	1298

Source: National Statistics online database

* Figures for Gillingham represent Gillingham South only as this is the area of study.
** All boroughs are ranked from 1 to 8414 with 1 being the most deprived (see www.nationalstatistics.gov.uk).
*** Totals represent all categories of recorded crime for High Streets and surrounding areas only.

As Table 2 demonstrates Strood is a worthy comparable/control area for Gillingham. To be noted in particular are the similar resident populations and the crime rates for 1996 in the two areas, which only differ by 78 offences.

Town Centre Trade In Gillingham

As a commercial centre, Gillingham has been subject to increasing competition from existing centres in Medway and from out of town retailing facilities at Hempstead Valley Shopping Centre and the Tesco superstore off the A2. Consequently, Gillingham town centre's position in the retail hierarchy of Medway has declined from a major centre and now performs the role of a district centre. The major focus of commercial activity within the town centre is concentrated on the linear High Street, the majority of which has been pedestrianised. In 1998 the town centre comprised 222 retail units totalling approximately 28,000 sq. m of gross retail/service floorspace

(Medway Council, 2002). Despite the presence of a number of national stores in the town's core area between Canterbury Street and the railway station, the number of major retailers represented in the centre has declined. The High Street is therefore heavily represented by independent operators occupying small shop units and there has been a growth in the number of charity shops in the area.

The Regeneration Strategy

There is much scope for growth in the town's non-retail and entertainment sectors as out of traditional hours trading in the town is largely unexploited and serves only a narrow part of the market. The area is well located for such uses being near to the town's night-clubs, restaurants, leisure facilities and railway station. Gillingham has many positive attributes that the regeneration programme planned to utilise. These include good public transport links both in terms of bus and rail, a compact, linear centre within walking distance of a large catchment population and six car parks catering for over 450 vehicles (Medway Council, 2002). The Civic Trust Regeneration Unit produced a revitalisation strategy for Gillingham town centre which included the crime prevention initiative. 'Crime Concern' were then appointed to conduct a crime audit throughout the Borough (HO CCTV challenge competition, 1996) and identified Gillingham High Street and town centre car parks as areas with high crimes and thus recommended the introduction of CCTV. At present there are no CCTV cameras operating within Strood high street. Medway has recently received £18 130 from the Home Office to help with a similar system as seen in Gillingham for Chatham High Street, inevitably with the popularity of such schemes Strood High Street will see investment in CCTV in the near future.

The Objectives Of The Scheme

According to the bid application submitted by the Gillingham Safer Community Partnership (GSCP) the main types of crime occurring in Gillingham are "assaults, criminal damage, burglary, theft and drug dealing, namely heroin." (GSCP, 1996/7). The bid also notes that "while a considerable length of the High Street is pedestrianised there is a significant number of vehicle thefts and thefts from vehicles". The actual crime figures will be examined in the results section. The GSCP bid outlines how effective they foresee the CCTV system being in relation to these crimes. The target figure for the reduction of criminal damage is 25% of the level averaged over the two years before installation, a 15% reduction of assaults and disturbances, a 40% reduction of car crime and six arrests within the first six months for drug dealing. The overall aim of the scheme is to:

> *Return the High Street and its car parks to all the inhabitants of Gillingham and its visitors by making it safe for all members of the community to use, both by day and night.* (GSCP, 1996, p3)

The area covered by CCTV includes Gillingham High Street and adjacent car parks. The cameras are capable of identifying individuals, groups and car number plates within the majority of the High Street area and the car parks. The control room is situated at nearby Chatham Maritime and is staffed 24 hours a day by security staff who work on a one operator per shift policy (GSCP, 1996, p5).

Table 3 summarises location and coverage of the CCTV cameras and potential problem areas in the High Street.

Table 3: *Location of photographs, coverage of cameras and potential problem areas.*

Location	Camera Coverage	Potential Problem Areas/ Premises
Kerbside in High Street outside Hollywood Bowl wine bar. Opposite junction with Marlborough Road.	Primarily northern end of the High Street. Additional coverage around road junction and public house.	The Marquis of Lorre and Viscount Hardinge public houses. Hollywood Bowl restaurant.
Wards Greetings Cards shop at the corner of High Street and Saxon Street.	Both directions of High Street. Additional coverage of pedestrianised end of Saxon Street.	Loitering and anti-social behaviour around seating and phone boxes at adjacent end of Saxon Street.
Kerbside outside St. Mark's Church at the corner of High Street and Canterbury Street.	Primarily both directions along High Street. Additional coverage including adjacent ends of Canterbury Street and Skinner Street.	Ethos Night Club and Prince Albert public house. Barclays bank and Halifax Building Society A.T.M.'s.
WH Smith in High Street facing towards Canterbury Street.	Primarily both directions along High Street. Additional coverage of James Street and Car park.	Public Houses. T.S.B, Nat West and HSBC A.T.M.'s.
Pedestrianised square in High Street outside Clarkes shoe shop. Facing south end of High Street.	Both directions of High Street. Additionally coverage of Green Street and Sappers Walk.	Nationwide Building Society A.T.M.
Entrance to James Street Car Park.	Primarily James Street Car Park. Additional coverage of James Street.	General car park area - vehicle theft of/from and damage to. Prince Alfred Public House
Balmoral car park. North east corner of car park adjacent to footpath through Balmoral Gardens	Primarily south over the car park including the vehicle entrance. Additional coverage north over Balmoral Gardens including the children's play area and footbridge leading towards the town centre.	General car park area - vehicle theft of/from and damage to. Loitering and anti-social behaviour around Balmoral Gardens.

Now that the selection of Strood as a control area has been justified and the details of the CCTV scheme in Gillingham have been explained as well as the location set for the study the next chapter will focus upon the various methodologies used in the study before looking at the results of the study.

Chapter 5 Methodology

The basic methodology for this study has already been identified to comply with Welsh and Farrington's criteria for assessments of CCTV schemes (see page1). The first of these criteria was to ensure CCTV was the main intervention. This was identified based upon the importance of CCTV relative to any other crime prevention methods, this criteria is self explanatory as if CCTV was not the main intervention it would be impossible to disentangle the effects of CCTV from the other interventions. The Gillingham system did have other interventions but they were already in place before the installation of CCTV as part of the regeneration scheme that occurred in 1994. These included improved lighting in key areas, the 'shop safe' network (connecting shops in the network with hand held radios to communicate potential crime etc), and neighbourhood watch schemes. However, the crime statistics from 1997 onwards will reflect CCTV as the main intervention reinforcing the already existing measures.

The second criterion is simply ensuring crime is the outcome measure on which evaluation is based. The final three criteria all relate to the crime statistics. Firstly that the evaluation involved before and after (the intervention of CCTV) records of crime; secondly there was at least one experimental and one comparable control area. Any studies that compared two similar residential, business or commercial areas were eligible. Any study that compared the experimental area with, for example, the remainder of the city was ineligible because the control area was non-comparable. This study therefore meets this criteria as Gillingham and Strood have shown to be comparable areas for evaluation. The final criteria relating to the crime data stipulates

that the total number of crimes in each area before and after the intervention was at least 20. From Welsh and Farrington:

It was considered that a measure of change based on an N below 20 was potentially misleading. Also, any study with fewer than 20 crimes before would have insufficient statistical power to detect changes in crime. (Welsh and Farrington, 2002, p4)

As the number of crimes in Gillingham and Strood fall between 875 and 1376 per month this final criteria is met by this study.

Limitations of Welsh and Farrington's Methodology

These criteria are not followed unquestionably but do provide a good basis for research in this field. If all researchers in the future comply with this methodological framework the analysis of crime prevention will be more standardised than work has been previously allowing for more sound and universal conclusions to be made. There are, however, limitations with Welsh and Farrington's criteria. Foremost is that, although CCTV can be identified as the main intervention, there are undoubtedly more variables at work than just the crime prevention mechanism. For example a factor not really taken into consideration by previous research is the role of the local media. New CCTV systems, particularly within town centres receive a lot of local media coverage which offers lots of benefits to many parties. Publicising the scheme will deter some potential offenders as CCTV successes are reported in the local press as well as high profile national cases, for example the James Bulger case. News coverage will also benefit the local council as they are shown to be 'doing something' about crime. It follows the peak of media coverage will occur in the preliminary

stages of the system to advertise its existence and may have a strong impact on the reduction of crime that is often seen within the first year of a new CCTV system. Unfortunately this aspect could not be pursued within the time frame available for this study as the scheme in Gillingham is six years old and accessing local press archives from the time would have proven very time consuming. Even if they had been obtained, finding some way to gauge and evaluate their impact on crime quantitively would prove even harder and leaves an interesting challenge for future research. Consequently; at best all that can be concluded from research based upon crime figures with CCTV as the main intervention, is that CCTV is the *most likely* reason for changes in crime rates. This issue will be considered further in the concluding chapters.

The Data Sets

The majority of data utilised by this study is secondary data in the form of quantifiable crime statistics but from these subjective and qualitative conclusions can be made. The figures represent all crime by category and by month for Strood and Gillingham High Streets and adjacent areas from January 1996 to December 2001. The figures were provided by the Medway Police Business Information Unit and as such reliability and accuracy of the figures should be high although they of course depend on crimes that were actually reported. Bottomely and Coleman (1981) present detailed findings on the technicalities of reporting crime for the assimilation of crime statistics and the presentation and purpose of such statistics. Their findings suggest that what constitutes the final crime rate may be influenced heavily by their purpose and the methods and definitions accepted to make a crime a statistic. They cite the case of ‘no crimes’ where, for example, a stolen car is later retrieved and (assuming it

has not been vandalised) can potentially be ruled out as a criminal occurrence should the statistics call for vehicle crime to appear low (Bottomley and Coleman 1981). Or alternatively should the statistics call for vehicle crime to be shown as high the occurrence could be cited as a crime. Within the context of this study it is best to assume the statistics are reliable as they were not prepared for public use (and therefore assumingly free of bias) and Bottomley and Coleman's findings are now 20 years old and no longer reflect the operational procedures of today's Police Force.

Inadequacies Of The Crime Statistics

There is however one limitation of the crime figures obtained. Unfortunately, during the upgrading of the computer system within the Police Business Unit records were only kept from January 1996 which leaves just 12 months of figures pre-installation of CCTV. Crime statistics for the years 1994 and 1995 do exist in the 'GSCP Home Office Challenge Competition' document but as they were compiled by the council and were intended for public display the possibility exists within these statistics of bias as described by Bottomley and Coleman. For this reason only the Police Crime Statistics were used for this study.

Examining The Statistics

In a mathematical sense as the relationships between the numbers are not complex and involve a lot of variables (14 crime types over 72 months) statistical tests of significance do not throw a lot of light on the matter (all relationships significant at 0.01 and 0.05 levels). Basic graphs and tables will present a clearer picture of the mathematical relationships than complex statistical tests, particularly when considering the subjectivity of the conclusions that can be drawn from crime figures.

No statistical test could prove that CCTV was definitely the main reason for changes in crime rates. As discussed earlier at best all that can be concluded is that CCTV is the *most likely* reason for any changes.

The Interview Data

The primary research conducted by this study involved a series of interviews the purposes of which were two-fold. Principally to obtain primary qualitative data about the wider issues relating to CCTV in town centres and secondly to learn more about a subject, with a dearth literature, from people who work within the field. As the civil liberties side of CCTV had been rejected as a feasible study, interviews with people not directly involved with the CCTV scheme had the danger of straying from the subject matter. Hence interviewees were chosen based upon their personal involvement in, and responsibility for activities relating to town centre CCTV systems particularly in the case study location. The interviews were conducted on a one-to-one basis and were semi-structured as described by Wengraf (2001). Each interview had a set of pre-determined questions but was sufficiently open ended enough to allow improvisation for subsequent follow up questions. As the researcher and the respondent had no real common knowledge on the subject structuring the interview was important and as noted by Fielding (1993) probing was used if focus was lost from the interview. As the researcher is not a very experienced journalist the accuracy of note taking was confirmed at regular intervals by the respondent. The same introductory question was posed to each respondent and from this point each interview consisted of a combination of standard questions and ones aimed specifically at the respondent's position of responsibility. For example a question that focused on CCTV bringing investment into Gillingham was deemed inappropriate for

the interview with a Police Officer in favour of a question that addressed the role of the Police in the CCTV scheme. Details of the interview data will be explored in the Results chapter.

The overall methodology for the study has now been examined and the individual methods of data collection explained. The full background for the study has now been established. This leaves the following chapter to present the crime figures and the interview data obtained.

Chapter 6 Results

(i) Crime Statistics

In order to more clearly see the general pattern of change analysis will firstly look at the annual totals of crime and then more closely at changes in specific crime types. All figures are taken from the annual crime totals for Gillingham and Strood as provided by the Police Business Information Unit (2002).

Table 4: *Annual crime totals for Gillingham and Strood*

	Strood (No CCTV)	**Gillingham (CCTV)**
1996	1298	1376
1997	1006	768
1998	1239	930
1999	1324	961
2000	1322	875
2001	1275	898

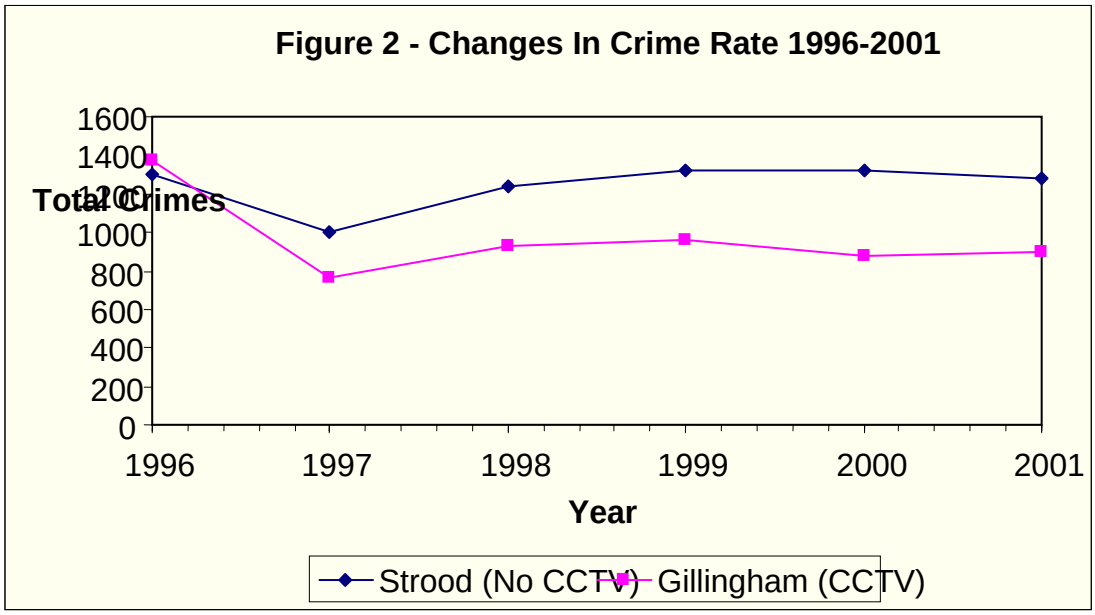
Source: Medway Police Business Information Unit (2002)

(Starting level, Decrease, Increase)

The annual totals show the dramatic change that occurred to crime rates after the installation of the CCTV scheme in December 1996. Starting at roughly the same level crime fell by approximately 44% in Gillingham in 1997 and interestingly the benefits appear to have diffused to Strood which saw a 22% reduction in total crime rate. A preliminary suggestion for this occurrence is that the publicity received for Gillingham led to crime reductions throughout Medway in this initial period. This theory will be discussed further in the following chapter. For the next two years crime rose in both town centres before declining again between 2000/01 in Strood and

falling then rising slightly over the same time in Gillingham. Figure 2 demonstrates graphically the changes that occurred to crime rates after the installation of CCTV:

Figure 2: *Graph showing change in crime rates for Gillingham and Strood 1996-2001*



The graph shows more clearly the relationship between the introduction of CCTV and the subsequent changes in crime rate. Both sites appear to have been significantly affected by CCTV in the first year of operation but then crime rates rise and level out between 1998 and 2001. Strood reaches a low in 1997 but rises back up to within 23 crimes of the 1996 crime rate by 2001. Gillingham on the other hand demonstrates a significant change that can be most likely attributed to CCTV. The area in between the lines on the graph can be said to be the range of effect of CCTV. As Strood is the control area it is possible to calculate estimates of the crime rate in Gillingham if there was no CCTV present. By applying the formula $x = \frac{a}{b} \times z$ where x is estimated crime rate for any given year, a and b are the 1996 crime rates without CCTV and z is the

crime rate of Strood from the year in x. Table 5 shows the estimates for Gillingham based upon the change that occurred in Strood using this formula.

Example of formula for estimated crime rate in Gillingham for 1997:

$\frac{1376}{1298} \times 1006 = 1066$ (actual crime rate for that year 768)

Table 5: *Estimated crime rates for Gillingham without CCTV*

	Observed crime rate - Gillingham	Observed crime rate – Strood	Estimated crime rate Gillingham according to Strood figures	Difference due to CCTV
1996	1376	1298	1376	0
1997	768	1006	1066	298
1998	930	1239	1313	383
1999	961	1324	1404	443
2000	875	1322	1401	526
2001	898	1275	1352	454

(Start level, estimates)

The 'difference due to CCTV' totals 2104 crimes that would have (theoretically) occurred had CCTV not been in place. The estimated crime rate for Gillingham in 2001 is within 25 crimes of the starting value showing the equation works as the same relationship is found in Strood. However, the major assumption with these estimates is that the crime rate in 1996 typifies the pre-CCTV crime rates. This is the only major limitation of the data sets but unfortunately records were not accessible for earlier dates.

For a more detailed examination of the changes within specific crime types the following table shows the crime totals from 1996 and the average totals of the next five years for categories of crime.

(Figures shown for violent crimes, robbery, burglary dwelling, theft of motor vehicle, theft from motor vehicle, shoplifting, other thefts, criminal damage and drugs)

Table 6: *Percentage change of crime types.*

Crime Type	Gillingham (CCTV)			Strood (No CCTV)		
	Pre CCTV		Post CCTV	Pre CCTV		Post CCTV
Robbery	19	(*-32%*)	13	6	(*+50%*)	9
Burglary Dwelling	69	*-22%*	54	144	*-33%*	96
Theft of motor vehicle	150	*-37%*	54	180	*-31%*	124
Theft from vehicle	122	*-33%*	82	172	*-4%*	165
Shoplifting	280	*-49%*	142	92	*-58%*	39
Other thefts	239	*-36%*	153	131	*+14%*	149
Criminal damage	180	*-22%*	140	206	*+29%*	266
Drugs	2	(*+550%*)	13	6	(*+73%*)	22
Violence	96	*+32%*	142	84	*+37%*	134

Figure 10 notes

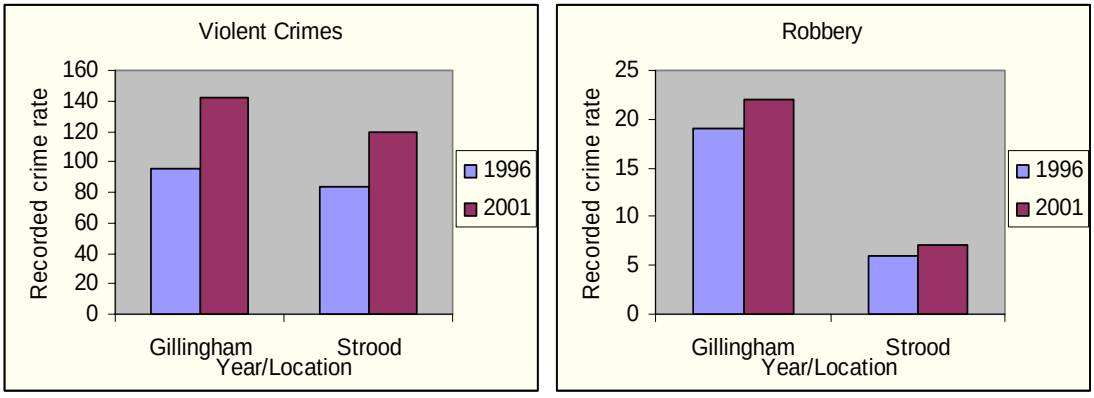
1. All figures to 1 d.p and significant at $p < 0.05$ and 0.01 levels.
2. Where the base figure is low (i.e. less than 20), percentages are expressed in brackets.
3. Pre CCTV corresponds to 1996 totals
4. Post CCTV = average of 1997-2001 totals

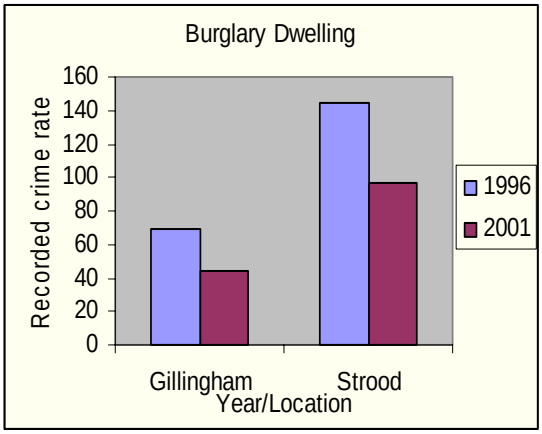
Comparing crime types in this way gives an entirely different depiction of the crime data than the simple annual totals that table 4 shows. When broken down into categories the trends are not as simple as may have at first seemed. Gillingham on average witnessed a reduction of 33% excluding the figure for drugs. The drugs percentage is a perfect example of how statistics may be used for scaremongering: although totals are small, knowledge of a 550 per cent increase would no doubt create public alarm. The only two average increases in the CCTV area were for drugs and violence and the major decreases seen in vehicle crime and shoplifting. This can most

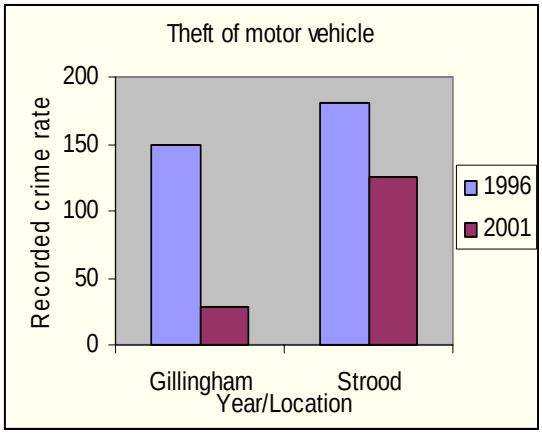
likely be attributed to CCTV as pre-meditated crimes typically see the most reductions as the offender has to measure the risk of being caught as described in Tilley's mechanisms of CCTV (see page 8). On the other hand violence has seen an increase as it is often not pre-meditated and usually fuelled by alcohol.
Strood shows the same pattern, a diffusion of benefits appears to have occurred as similar pre-meditated crimes have gone down but again more spur-of-the-moment crimes such as criminal damage, drugs, violence and thefts have increased. The most marked differences between the two areas were in robberies (-32% Gillingham, +50% Strood), other thefts (-36%, +14%) and criminal damage (-22%, +29%), which again could be described as 'impulsive' crimes and not influenced by CCTV.

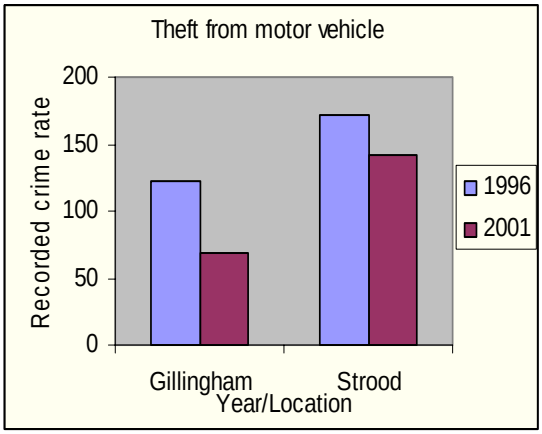
The following graphs plot the levels of crime for the same categories in table 6 but instead of using averages will plot the 1996 starting level and the latest 2001 figures to investigate the long-term effects.

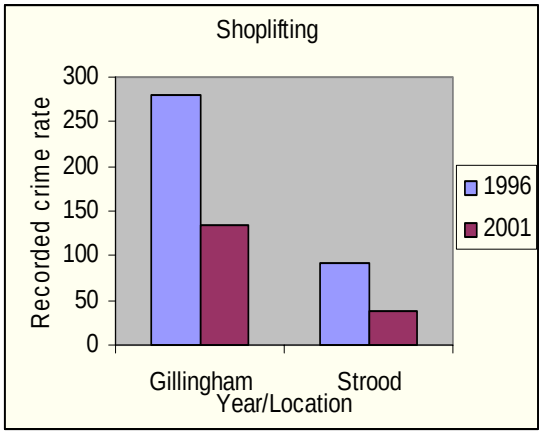
Figure 3: *Change in crime 1996/2001*

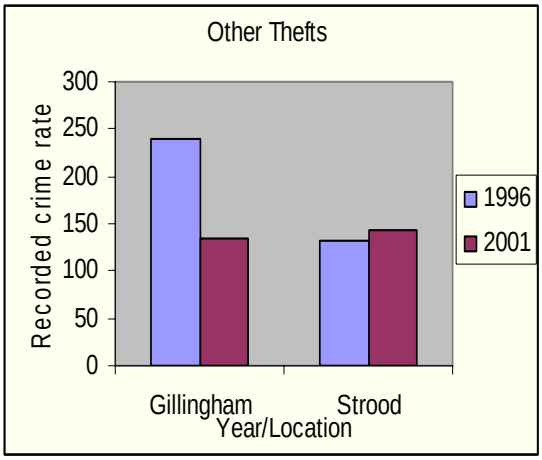


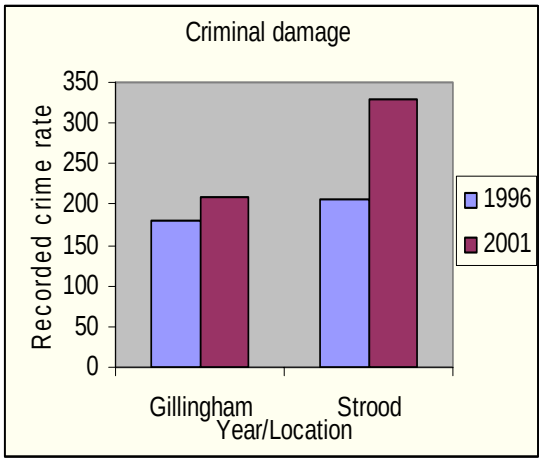

Burglary Dwelling
Recorded crime rate
160
140
120
100
80
60
40
20
0
Gillingham
Strood
Year/Location
1996
2001

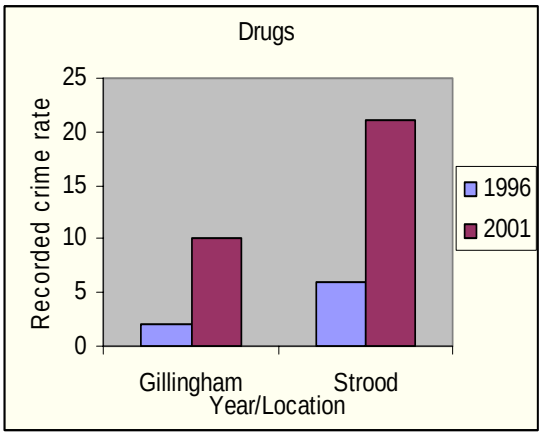

Theft of motor vehicle
Recorded crime rate
200
150
100
50
0
Gillingham
Strood
Year/Location
1996
2001


Theft from motor vehicle
Recorded crime rate
200
150
100
50
0
Gillingham
Strood
Year/Location
1996
2001


Shoplifting
Recorded crime rate
300
250
200
150
100
50
0
Gillingham
Strood
Year/Location
1996
2001


Other Thefts
Recorded crime rate
300
250
200
150
100
50
0
Gillingham
Strood
Year/Location
1996
2001


Criminal damage
Recorded crime rate
350
300
250
200
150
100
50
0
Gillingham
Strood
Year/Location
1996
2001


Drugs
Recorded crime rate
25
20
15
10
5
0
Gillingham
Strood
Year/Location
1996
2001

Presenting the crime statistics in this fashion gives another different perspective than already seen in tables 4 and 6. Table 4 is a good overall aesthetic for showing reduction in crime while table 6 looks more at reductions in specific crimes by the use of averages. This again makes the CCTV area look to have benefited. However, figure 3 demonstrates the effectiveness of CCTV appears to be waning over time. On average over the years 1997-2001 only two categories of crime (violence and drugs) increased but when comparing 1996 with 2001 four crime categories in Gillingham (drugs, criminal damage, violent crimes and robbery) have *increased* since the introduction of CCTV. Strood with no CCTV has seen a similar pattern when comparing 1996/2001 with only 'other thefts' which increased in 2001 differing from what was seen in Gillingham. This type of evidence is unlikely to be popular with the local authorities who often, mistakenly, see CCTV as the panacea of crime reduction.

(ii) Interview Data

Throughout the study an attempt was made to try and understand the background of town centre CCTV in particular who was involved, why they supported CCTV and how it was funded. It is important to note that this researcher had no prior knowledge of town centre CCTV and so a major purpose of the interviews was to gain this knowledge from those involved. An interview guide was used but questions were intended to be open ended.

The same initial question was posed to all respondents at the start of the interview:

> *"CCTV town centre systems are prevalent through the country and are generally accepted as 'good things'. Why do you think CCTV is a good thing?"*

The structure of the interview is loosely based upon Mackay's study of Glasgow (2002) and first hand advice on conducting the interviews was obtained from the experienced researcher who kindly replied to an email.
While the open ended nature of the interview led to a lot of free discussion about CCTV the following occurred as a group of important common factors in the interviews for the purposes of this study: uses of CCTV, funding/investment and issues of image and public opinion. Face-to-face interviews were held with the following:

Town centre manager: Overall operations manager of Gillingham Town Centre including overseeing the running of the CCTV system. General attitude was to identify with management potential and the success of CCTV.

Medway Crime Reduction Officer: Part of Medway Police Force. Tasks include crime prevention advice to residents, retail, schools, and heads public enquiries. Involved in 'Alleygating' scheme – preventing unauthorised access to Gillingham's many residential alleys – and involved with CCTV in Medway. General attitude to emphasise CCTV is not the panacea of crime reduction.

CCTV Sales Manager: Was involved in pre-development consultation for the Gillingham town centre system and partly responsible for the final design of the system. General attitude was to promote the use of CCTV in town centres.

The following issues were identified by the respondents:

Financing CCTV and Investment in Gillingham

Finance was identified in all interviews as a major factor when assessing town centre CCTV systems. Each respondent had ideas as to who should foot the bill.

Town centre manager	It should be a joint partnership between the Home Office and town centre initiative backed by the local council. The major contributor should be central government. Traders should also contribute as the service benefits them too, however, independents don't contribute and 80% of Gillingham is independent shops.

All respondents agreed up to this point but when asked if the police should contribute, unsurprisingly the opinions of the town centre manager and the police officer differed:

Town centre manager	Police should also front some of the bill as CCTV is a very useful management tool for them.
Crime Reduction Officer	Police budgets are not resourced to help fund CCTV. Our role is reactive; the police side of the deal is to respond to the incidents witnessed by CCTV, not to fund them.

Corporate sponsorship was identified as a possible means of raising extra funds for CCTV schemes;

CCTV sales manager	A good way to raise money would be corporate sponsorship of individual cameras by local commerce and industry. Publicising the successes of their cameras and advertising on the cameras and CCTV notices being a few of the potential benefits.

Town Centre Manager	*Arriva* are a major contributor by using corporate sponsorship to fund cameras which can cost upwards of £180 each. We're trying to encourage this type of investment for maintenance costs and new systems.

Investment in Gillingham was mentioned by two of the respondents, focusing primarily on leisure activities:

Town Centre Manager	CCTV has brought investors into Gillingham but more importantly it has brought people out more. They are more likely to eat out or go shopping if they know their car is being watched. The system is live 24/7 and directly linked to the Police.
CCTV Sales manager	If people feel they can safely leave their car and walk the streets there will be an increase in evening leisure spending and activities.

The uses of CCTV

All respondents agreed upon the various advantages of CCTV;

Crime Reduction Officer	They are a good deterrent. In High Streets and car parks people think twice before committing offences.

Quality of life issues were mentioned early on in the interviews:

CCTV sales manager	Cuts crime and just importantly the fear of crime. Makes the community a safer place to live, work and socialise.
Town centre manager	[CCTV] Deters crime, not only crime but the fear of crime and makes for a safer environment to shop, live and work in.
Crime Reduction Officer	People feel safer and better about using and visiting areas if there is CCTV.

When asked how effective CCTV was as a management tool all respondents offered examples of how CCTV was used in this way but stressed these were only secondary concerns;

CCTV sales manager	[CCTV] Can be used to show when car parks are full, when cars are illegally parked and traffic flows. They monitor police hotspots and in this way manage police resources better.
Town centre manager	CCTV is also a successful management tool and can be used to warn about traffic build up, find lost children and generally keep an eye on the town.

When asked how much CCTV assisted with managing police resources the crime reduction officer believed the system was not as efficient as it could be:

Crime Reduction Officer	The most effective systems are monitored 24/7. However, some of the time calls are not responded to as quickly as we would want. This is due to Police resources and priorities, communication between the control room and the police and the actual response time to incidents that are unfolding live. There are only 8 patrols in Medway so it's quite easy to be tied up and left with no response teams. Probably around 40% of call outs in the town centre are from CCTV.

Public opinion

In order to ascertain if any factors were more important than crime reduction for installing cameras the respondents were asked how much public support influenced the installation of CCTV and how important the 'need to be seen to be doing something' about crime was.

CCTV sales manager	[public pressure] is very important as towns have to be seen to be keeping up with their neighbours. If the next town has CCTV and you don't people are going to start to ask why not. A lot of pressure is applied to the council to be seen to be doing something about crime
Town centre manager	There is a huge pressure from the public as CCTV is shown to be a good thing by the media in high profile cases. CCTV is shown to aid investigation and get results making the public feel it is an integral part of their town centre.

The role of the media was noted by the crime reduction officer as a major factor in public support and in turn pressure for CCTV systems:

Crime Reduction Officer	We have strong links with Meridian and a recent example is Operation Mozart which was collaboration between the police and the media. Young offenders were photographed racing dirt bikes and the stills shown on the evening news, as a result the offenders were convicted. Also on Monday (23/09/02) there were two armed bank raids outside Maidstone; CCTV footage of the offender was again broadcast on Meridian leading to arrest and conviction yesterday (25/09/02). Successes like this lend great public support to CCTV.

All respondents agreed image was a major part of town centre CCTV systems but had their own ideas on how important it was.

CCTV sales manager	I think the 'feel good factor' of CCTV is inter-linked with its crime reducing abilities. It's a 50-50 relationship. The town has a feel good factor because of the reduced crime rate that comes with a CCTV system.

Town centre manager	Image is vitally important from the point of view of town management and the council. CCTV has become a necessity to the extent that people may be deterred from going out unless there is CCTV. In areas with a bad reputation we are constantly fighting an image related perception Vs reality battle where people think it is not safe to walk at night when this is not the reality. Gillingham is a fairly safe place but most people only feel confident if CCTV is present to balance out this perception.
Crime Reduction Officer	I would be more inclined to say deterring and detecting crime is the most important aspect. The public have a poor perception of CCTV; it's not the be all and end all of crime fighting it's just a tool in the crime fighting kit. It is important to keep the public happy but the police don't have to win votes. We have to stop crime and CCTV is a tool for this purpose.

The full range of results have now been shown, firstly for the crime statistics of Gillingham and Strood High Streets and secondly a summary of the major issues that arose from the interviews. The following chapter will discuss the findings within the context of the study and existing literature and present the conclusions that can be made.

Chapter 7 Discussion

In order to discuss the findings of this study it will be useful to compare the results for Gillingham with the work of other authors previously mentioned such as Brown, Tilley and Welsh and Farrington. The latter, upon whom a large part of this study's methodology was based, found that eleven of the twenty two studies showed signs of a 'significant desirable effect on crime' (Welsh and Farrington, 2002, p41). Furthermore the average crime reduction overall was found to be 4%. However, when broken down into categories it was found that schemes in car parks reduced crime by 41% on average. Subsequently their findings suggested that CCTV had least effect on violent crimes and significant desirable effects on vehicle crimes. Based upon the crime statistics Gillingham has seen a 35% reduction in crime most likely attributable to CCTV. This is considerably larger than Welsh and Farrington's 4% but as the crime statistics for Gillingham include town centre car parks the 41% figure given by Welsh and Farrington for schemes in car parks appears closer to the mark. Also in agreement is that in Gillingham CCTV has shown to have least effect on crimes which are often unplanned and spurned by alcohol such as violent offences and most effect on pre-meditated crimes such as vehicle crime. It is argued that CCTV is there to help with response times to violent and unplanned crimes rather than actually preventing them (Brown, 1995). This theory could be added onto Tilley's list of mechanisms of how CCTV works as detailed in Chapter 2 (page 8). All the listed mechanisms which Tilley describes are plausible explanations for how CCTV led to reduced crime in Gillingham. Additionally, though, it can be seen that crimes that are pre-meditated are more likely to be deterred by CCTV than spontaneous crimes. Within the context that Tilley operates, that of car crimes, this can be interpreted as

crimes which can be completed in a short space of time or criminal damage of cars are less likely to be deterred by CCTV than more calculated and lengthy crimes.

Findings Of A Longitudinal Study On Crime Prevention

This study has served to show that conclusions made by many authors who based their studies on just one year before and after CCTV are inaccurate. This is not to say they were ignorant of the fact nor that this study is the definitive study. On the contrary what can be said is that Brown and Tilley et al were correct to stipulate that assessment needs to be more than a year either side of installation. By simply looking at figure 2 the effectiveness of CCTV can be seen to be decreasing over time. It also demonstrates that it is not until the third year of the presence of CCTV that crime rates appear to form a new equilibrium. Brown's studies of Newcastle, Birmingham and Kings Lynn conclude that the effectiveness of cameras appears to wear off over time but he is unable to say to what extent and why this occurs. He also states that CCTV works best when it is part of a package of measures. It could be concluded therefore that to sustain the level of reduction seen in the first year after installation of CCTV these other measures need to be maintained. A combination of crime reduction measures in the form of a CCTV system, better street lighting and media publicity is undoubtedly the best way to sustain low crime rates. This does create methodological difficulties when assessing the effectiveness of CCTV as it is difficult to disentangle these mechanisms if they are operating at the same time. It could be that the fluctuation of one of these other mechanisms is the cause for the levelling out of crime rates over time. The findings from Gillingham suggest it is now necessary for a study to be carried out to attempt to determine quantitively the role of the media and publicity in reducing crime. It follows that, over time, frequency and coverage given

to CCTV stories will decline but how much impact this has on crime rates remains unexplored.

Displacement of Crime and Diffusion of Benefits

Furthermore, one point which is clear from this study is that a detailed examination is required to identify the relationship between CCTV and non-CCTV areas in terms of displacement of crimes and diffusion of benefits. Displacement is often defined as the unintended increase in targeted crimes in other locations following from the introduction of a crime reduction scheme (Barr and Pease, 1990). Five different types of displacement have been identified by Reppetto (1976): temporal (change in time), tactical (change in method), target (change in victim), territorial (change in place) and functional (change in type of crime). It is unclear the extent to which displacement occurred as a result of the CCTV scheme in Gillingham as this study could only concentrate on one control area. The potential exists to review the crime figures for every neighbouring town to Gillingham as figure 1 demonstrates (page 16) Chatham, Rainham, Luton and Rochester are all neighbours and examples may exist within these locations of displacement of crime. However, for Strood a temporary diffusion of benefits appears to have occurred. This is defined as the unintended decrease in non-targeted crimes following from a crime reduction scheme, or the “complete reverse” of displacement (Clarke and Weisburd, 1994). Although the average reduction in crime in Strood between 1996 and 2001 is only 0.05% (compared to 35% in Gillingham) there appears to have been a diffusion of benefits in 1997 where the total crime rate fell by 22% before rising again by 19% at the end of 1998. It seems too much of a coincidence that both Gillingham and Strood saw dramatic reductions in crime rate in the 12 months after the installation of CCTV in Gillingham. As

Gillingham was the first of the Medway towns to receive CCTV it would follow the publicity would be high. This may have deterred potential offenders from committing crime in the whole area as news of a crime crackdown spread. However, once the dust had settled from this initial publicity and offenders found out where they could commit crimes 'unwatched' the number of incidents rose in both areas *but* only the CCTV area saw an *overall* reduction of crime in the long-term. So, although factors such as media publicity and diffusion or displacement appear to be entangled when assessing the effectiveness of CCTV it does not mean valid claims cannot be made of the success of CCTV.

Results Compared To The Schemes Objectives

Certainly from a politician's point of view regardless of methodological loopholes Gillingham, as a town with CCTV, witnessed a 35% reduction in crime over a five year period and Strood without CCTV a minimal 0.05% reduction. Anyone involved with the scheme will herald results like these as making it a success however 'success' was defined by the GSCP bid as:

> *A 25% reduction in criminal damage, a 15% reduction of assaults and disturbances, a 40% reduction of car crime and six arrests within the first six months for drug dealing.* (GSCP, 1996)

The following table, table 7, shows the percentage change for the crimes cited in the GSCP bid:

Table 7: *GSCP Targets*

Violence	96	*+32%*	142
Criminal damage	180	-22%	140
Theft of motor vehicle	150	-37%	54
Theft from vehicle	122	-33%	82
Drugs	2	(+550%)	13

Table 8 demonstrates that none of the GSCP targets were actually met but criminal damage and car crimes have fallen close to the targets and have been hailed as successes. In fact the figures for these offences were referred to in the interview with the town centre manager. Unsurprisingly the two targets that were not referred to were drugs and violence. A targeted 15% reduction in assaults actually saw a 32% increase and drugs crimes rose from 2 to 13 although the figures do not represent arrests. What can be questioned just as much as the effectiveness of CCTV is the usefulness of such statistics. Figures can be changed quite significantly by simply adjusting the working definitions of the crime. For example with the downgrading of cannabis many of the drug offences could potentially be eradicated. There are also lots of loose definitions for example what actually counts as ‘other thefts’ and ‘violence’ can often accompany other crimes. The use of statistics has been shown to be very subjective: by using averages or ranges and by excluding certain crime types and presenting figures in differing ways entirely different conjectures can be made depending on what point one wishes to make.

Conclusions Drawn From The Interviews

In pursuing Mackay's claims that;

> *The development of town centre CCTV systems has been driven by the availability of central government and other funding and a coalescing of local interests, not by any bona fide crime prevention imperatives.*
>
> (Mackay, 2002, p33)

The interviews conducted for this study found that the support for CCTV town centre systems was based on the following considerations; namely, financial, public opinion, economic benefit, partnerships and town centre management. However, despite the aforementioned problems with evaluating a CCTV system this study has found that crime rates have lowered as a result of the intervention of CCTV. Therefore any *future* schemes in Medway will likely feature crime prevention as the imperative factor for investing in a CCTV system. Despite this when the bid was first made for CCTV in Gillingham in 1996 there was very little, if any at all, empirical evidence to support the use of CCTV for crime reduction. During the course of the interviews it was very easy in hindsight to say the system worked but at the time it was an untested method and as such its support was no doubt "driven by the availability of central government and other funding and a coalescing of local interests" (Mackay, 2002, p33).

It now remains to summarise the results of the discussion and present the conclusions of the study.

Chapter 8 Conclusions

The conclusions of this study can be grouped into three categories: findings, limitations and priorities for future research.

Findings

I. This study has successfully shown that examinations reviewing the effectiveness of CCTV in town centres need to be longitudinal. Past literature has spoken of the need for such a study to be carried out and the analysis of Gillingham has shown that crime rates are reduced most significantly during the first year after installation but then level out after a five year period forming a new equilibrium.
II. Based upon the findings that show Gillingham witnessed a 35% reduction in crime over a five year period compared to a 0.05% in Strood it can be concluded that the CCTV scheme in Gillingham has successfully reduced crime.
III. Welsh and Farrington's rigorous criterion form a methodological framework which, if complied with, will help future researchers to standardise reviews of CCTV systems.
IV. The initial support for the CCTV system can be linked with the availability of government funding but crime reduction will become the main factor once the merits of CCTV are proven.

Limitations

I. Due to the upgrading of the Police Business Information Unit's computer system crime rates were only available for 12 months prior to the installation of

CCTV. It would be preferable to have crime statistics from at least three years prior to installation of CCTV in order to gain a more dependable picture.

II. Ultimately it has proven difficult to credit CCTV as the major factor in reducing crime in Gillingham. There are many other mutually dependent factors (such as media coverage) which play important roles in combating crime and are not as easy as crime figures to assess on a quantitive basis.

Priorities for future research

I. A follow up study to Honess and Charman's survey of public attitudes to CCTV is now required as their previous work is now a decade old.

II. Displacement of crime and diffusion of benefits as a result of CCTV have been overlooked in previous studies. There is now need to initiate a study which would apply the methodology that was used in the study of Gillingham to other towns in the Medway area. From such research a detailed investigation could then examine these theories.

III. The role of the media in publicising CCTV and the subsequent effects on crime rates also remains unexamined. A study needs to be conducted which attempts to assess this effect in quantifiable terms.

IV. Finally research is also needed on the financial costs and benefits of CCTV programmes. Previous work by Welsh and Farrington (1999) indicated that CCTV is 'generally a cost efficient crime prevention strategy' but no substantial research exists to question the validity of this statement.

Overall, it might be concluded that local authorities have placed an unquestionable faith in CCTV with little empirical evidence of its effectiveness in reducing crime. Despite this the Gillingham case study has shown CCTV can successfully reduce offences such as shoplifting and vehicle crimes and therefore can be perceived as a ‘good thing’. However, CCTV is not the panacea of crime prevention. It is best utilised in conjunction with other crime prevention measures, media publicity and the continued support of the Police. CCTV on its own would not last long as a deterrent without security staff manning the screens and Police responding to the scenes. As such it would prove detrimental to allow uncontrolled and unproven growth of CCTV to be used as anything other than a crime fighting tool for building a safer society.

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